NOTES AND NEWS.

A GOOD ACCOUNT of the Botanic Garden at Glasgow will be found in *Gard. Chron.*, Jan. 26.

PROF. DR. GOEBEL, of Marburg, assumed with this year the editorship of the well-known journal, *Flora*.

M. HENNECART, Nestor of French botanists, died at Paris, 23d of last December, 91 years of age. He was born in 1797.

THE MICHIGAN Forestry Commission report for 1888 contains much information concerning the lumber interests of that state.

COUNT SOLMS has recently published a MS. monograph of the Saprolegnieæ left by the lamented de Bary. Bot. Zeit. 1888, nos. 38–41.

DR. FR. JOHOW, privatdocent at the University of Bonn, has been called to the chair of biology in the Normal School at Santiago, Chili.

DR. PFEFFER, of Tubingen, has been elected one of the fifty foreign members of the Linnean Society, in place of the late Prof. Planchon.

PROF. JOSEPH F. JAMES has published, in *Jour. Cin. Soc. Nat. Hist.* (Jan.), an account of the distribution of Vernonia in the United States.

THE FOURTH PART of Jane H. Newell's "Outlines of Lessons in Botany" has been published. It consists of a study upon buds and branches.

FRANCIS DARWIN, heretofore lecturer in botany in Trinity College, Cambridge, has been elected lecturer on botany in Christ College, vice Dr. Vines.

IN BULLETIN 3 from the Iowa Agricultural Experiment Station Mr. A. A. Crozier gives a popular description of some of the most common injurious fungi.

BULLETINS 59 and 60 from the N. C. Agricultural Experiment Station contain articles on the purity and vitality of seeds, and the value of lucerne as a forage crop.

REV. ARTHUR C. WAGHORNE, of New Harbor, Newfoundland, has published an account of the wild berries and other edible fruits of Newfoundland and Labrador.

RECENTLY biographical sketches of Dr. de Bary have been published in the Berichte der deutschen bot. Gesellschaft (General-Sammlung) and the Botanische Zeitung (1889, no. 3).

IN *Journal of Botany* (Feb.), *Potamogeton varians* Morong in herb. is described by Alfred Fryer. It is common to Britain and America, and seems to be the *P. gramineus*, var.? *spathulæformis* Robbins of Gray's Manual.

THE DECCRATION of the Legion of Honor was awarded by the French government on last New Year's day to Prof. F. L. Scribner, of Tennessee, T. V. Munson, of Texas, and Jaeger of Missouri, in recognition of their studies of the grape and its diseases.

GUIGNARD[1] reports the results of recent investigation of the development of antherozoids of the Characeæ. The nucleus of the mother-cell forms the whole of the body of the antherozoid, the protoplasm forming the cilia only. In these plants there is no vesicle attached.

[1]Comptes Rendus de l'Acad. Sci. CVIII. 71. See, also, Revue générale de Bot. no. 1.

THE LARGER part of Professor Dudley's article on the Strassburg Laboratory, given in the December number of this journal, has been reprinted in *Nature* for January 17, "as showing the sort of provision for botanical study that is thought right and necessary in Germany."

IN THE *Bulletin of Torr. Bot. Club* (Feb.) Mr. Bebb gives a second paper upon White Mt. willows, in which *Salix phylicifolia* L. is discussed, being *S. chlorophylla* And., Gray's Man. Ed. 5, excl. char. In the same number Mr. Morong gives his first impressions of South American vegetation.

THE INDIANA Agricultural Experiment Station has published a bulletin (No. 19) upon the spotting of peaches and cucumbers. The peach spot is *Cladosporium carpophilum* Thuem., and heretofore has been recorded only as occurring in S. Austria. The cucumber spot is *C. cucumerinum* E. & A.

PLANT ILLUSTRATIONS in recent numbers of the *Garden and Forest* are as follows: *Cereus Pringlei* Watson (Feb. 6), a gigantic cactus of Mexico, not so tall as C. giganteus, but with more ponderous branches than any cactus known; and *Rosa humilis* Marsh. (Feb. 13), the R. lucida of Gray's Manual.

DR. MAXWELL MASTERS (*Gard. Chron.*, Feb. 9), in giving an account (with capital illustrations) of *Abies lasiocarpa* Hook., concludes that, for garden purposes at any rate, *A. subalpina* Eng. should be considered to be *A. lasiocarpa* Hook. and *A. bifolia* Murray; and that *A. lasiocarpa* of the gardens is *A. Lowiana*.

THE SERIES of articles on physiological botany by Dr. Goodale in *Garden and Forest* is of great interest to those botanists who do not keep step with the advance of botany in physiological lines, as it compactly and clearly presents our best knowledge of the subject. The series began in the first number of the current year.

IN *Journal de Botanique* (Jan. 16), Abbé Masclef discusses *Daucus hispidus* DC., referring it to the interminably variable D. Carota, a thing that might be done with our own D. pusillus with no great violence. In the same number N. Patouillard begins a study of the genus Lachnocladium, describing nine species, two of which are new.

DUCHARTRE has recently observed the formation of numerous (as many as twenty) adventitious roots by the endosperm of Cycas Thouarsii, a Comoro species. Most of the seeds are without embryos. The roots start from the neighborhood of the micropyle. If the endosperm is the equivalent of the prothallium, then this is a peculiar form of apogamy.

AN ILLUSTRATED monograph of British Hieracia is being prepare by Frederick Jansen Hanbury. It is to be done in a most elaborate way, appearing in quarterly parts, the estimate being that it will be completed in five years. The annual subscription is 24 shillings for colored, and 16 shillings for uncolored copies. Subscriptions are to be sent to the author at 69, The Common, Upper Clapton, London.

SEVERAL new species of fossil woods have been described by Mr. F. H. Knowlton in the Proceedings of the National Museum for 1888. The diagnostic characters are mostly drawn from the microscopic structure; the plates show the cells in a surprisingly perfect state of preservation. The species include an araucaria (Araucarioxylon) from Arizona, a cypress (Cupressinoxylon) from Iowa, another cypress from Montana, and a palm (Palmoxylon) from Louisiana.

PROF. JAS. ELLIS HUMPHREY, of the Mass. Agricultural Experiment Station, has been invited to act as collaborator on the *Botanisches Centralblatt*, the well-known weekly résumé of current botanical literature. Dr. Uhlworm, the editor, wishes to have the work of American botanists more fully represented in his pages than heretofore, and Prof. Humphrey will be glad to receive reprints of all future American papers containing original matter, for abstract.

AMANN finds that the whitish coating which gives the glaucous appearance to the leaves of Leptotrichum glaucescens is a crystallizable substance which he calls "Leptotrichum-säure." This is the first crystallizable substance yet obtained from mosses. It is soluble in ether and hot alcohol, from which it may be recovered in crystals or a flocculent precipitate respectively. The crystals are tasteless and odorless. The small quantity available has not yet permitted a complete chemical study of the substance.

THE AGRICULTURAL Experiment Station at Knoxville, Tenn., has secured the entire collection of Dr. A. Gattinger of Nashville. This collection is a very valuable one, the result of 30 years of work of an indefatiguable and acute botanist. It is very nearly complete for that very interesting state, and Dr. Gattinger's correspondence has also secured much material from other parts of the United States. With Prof. Scribner in charge of the botany of the station, this rich collection at once becomes the common property of all working botanists.

A WRITER in a late number of *Education* points out that the dictionaries (Webster and Worcester) are wrong regarding the accent and meaning of the word Arbutus. He quotes from Horace, Virgil and Ovid to show that the accent should be on the first syllable, and from Aristophanes and others for the meaning, which is having the properties of the arbor or tree. It will be found that in the works of Asa Gray the word is properly accented, while in Hooker's Flora of the British Isles, and possibly other English works, the accent is on the second syllable.

ANOTHER JOURNAL, the *Revue générale de Botanique*, has been started with the new year, designed to cover all departments of the science. Its list of editors includes such well known names as MM. Bonnier, Dufour, Flahault, Costantin, Leclerc du Sablon and Saporta. It is a monthly of 36 to 48 pages, at 22.50 francs ($4.50) a year outside of France. Subscriptions are to be sent to the publisher, M. Paul Klincksieck, 15 Rue de Sèvres, Paris, and communications and papers for review to M. G. Bonnier, 7 Rue Amyot, Paris. The first number will be sent free to those interested in botany making known their desire to see it.

THERE HAS been recently patented in Germany by Dr. W. Koch and Max Wolz a novel arrangement for transmitting light through glass rods for the purpose of illuminating inaccessible parts of the body, such as the larynx. The same principle has been applied to the illumination of objects on the stage of the microscope. It is well known that light impinging upon the surface of glass at a less angle than 40°, suffers total reflection. The novel illuminating apparatus therefore consists of a hooded lamp, with a glass rod curved properly extending from a hole in the metal hood to the aperture in the stage. The light entering the end of the rod suffers numerous total reflections, until it reaches the end, where it emerges. The advantages for night work are sufficiently obvious and the low price (M. 15) puts it within easy reach. The apparatus is manufactured by two firms in Bonn, Marquart (C. Gerhardt), and Max Wolz.

IN THE PART OF HOOKER'S *Icones Plantarum*, just published, is a description of a gigantic ice-plant of S. Africa, whose "leaves are so juicy that it not only furnishes the cattle with moisture in that country, but is used by Europeans in traveling for the purpose of washing, and even drinking, the water squeezed out being devoid of taste." (*Gard. Chron.*, Jan. 19.)

M. BUYSMAN, of Middelburg, Holland, whose preparation of analytical herbaria we have already noticed (BOT. GAZETTE, xiii. 326), in a private letter calls attention to a change in the mode of preparation by his collaborators. The necessary fragments and flowers are not to be sent in bottles, as previously mentioned, but in tin boxes thoroughly moistened with alcohol. This change has been suggested by Dr. Schweinfurth. The tin boxes, and alcohol if necessary, will be furnished by M. Buysman to all who desire to help him. Only the colored flowers he wants dried and spread out. The aid of American botanists is asked in supplying the medicinal and useful plants (cultivated or not) of this country. All necessary expenses are to be paid by M. Buysman, to whom application may be made for fuller information.

BOKORNY has recently confirmed to some extent Bäyer's theory of assimilation, viz.: that green plants in light reduce CO_2, CO remaining loosely combined with the chlorophyll, and from this some simple substance (such as formic aldehyde, CH_2O) is first formed, which is subsequently converted into a carbohydrate. Experimenting with Spirogyra, he excluded CO_2 and furnished instead formic aldehyde, methylal, methyl alcohol, glycol, or glycerin. Formic aldehyde proved poisonous, but from all the other substances the plants were able to manufacture starch and increase their dry weight. That they are able to convert these substances into a carbohydrate is not demonstrative evidence that they actually form these substances in the course of manufacture of carbohydrates from CO_2, but it increases the probability that they do.

WIESNER, in a preliminary paper in the Bot. Zeitung (1889, nos. 1, 2), undertakes to show that the older parts of plants by their transpiration draw on the water supply of the younger and that this affects greatly the development of these parts. The water so sucked away from the upper parts he speaks of as "the descending water stream." In general the buds, axillary and terminal, as well as the shoots arising therefrom, are hindered more or less completely in their development by rapid transpiration and accelerated by slower. By thus affecting the development of growing points, it is the transpiration and not the innate constitution of the plant which determines the production of sympodial shoots, or of false dichotomy. This his experimental evidence seems to confirm, since he was able to cause the abortion or development of the terminal bud by regulating the transpiration. The effect of transpiration is of course not direct. It acts by altering the turgor of the cells, the plasticity of the cell-wall, and possibly the structure of the protoplasm in the growing points.